SAFETY DATA SHEET

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NGHS / English



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1. IDENTIFICATION

Product identifier			
Product Name	Rechargeable Li-ion Battery L22D4PF1 By Sunwoda		
Other means of identification			
Product Code(s)	1734439		
Recommended use of the chemical	and restrictions on use		
Recommended Use	Lithium Ion Battery		
Restrictions on use	No information available		
Details of the supplier of the safety data sheet			
Supplier Identification	Lenovo LNB laptops		
Address	Songtao Road 696 shanghai shanghai 201203 CN		
Telephone	Phone:18116118603		
E-mail	yuanbb1@lenovo.com		
Emergency telephone number			
Company Emergency Phone Number	18116118603		

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B



Specific target organ toxicity (repeated exposure) Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance Black

Physical state Solid

Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage May cause an allergic skin reaction May cause cancer Causes damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood Wear protective gloves/protective clothing/eye protection/face protection Wash face, hands and any exposed skin thoroughly after handling Contaminated work clothing must not be allowed out of the workplace

Do not breathe dust/fume/gas/mist/vapors/spray

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing Immediately call a POISON CENTER or doctor Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant

Other information



May be harmful if swallowed. May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

51 % of the mixture consists of ingredient(s) of unknown toxicity

- 48 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 51 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO2)	12190-79-3	50	-	-
Graphite	7782-42-5	30	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Copper	7440-50-8	10	-	-
Aluminum	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	2	-	-
Ci 77266	1333-86-4	2	-	-
Sodium carboxymethyl cellulose	9004-32-4	1	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. First aid is upon rupture of sealed battery. In case of rupture:
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated

	clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).
Most important symptoms and effect	cts, both acute and delayed
Symptoms	Burning sensation. Itching. Rashes. Hives.
Indication of any immediate medica	I attention and special treatment needed
Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES		
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.	
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.	
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.	
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.	
Hazardous Combustion Products	Carbon oxides.	
Explosion Data Sensitivity to Mechanical Impact Sensitivity to Static Discharge	None. None.	
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2)	TWA: 0.02 mg/m ³	-	
12190-79-3			
Graphite	TWA: 2 mg/m ³ respirable	TWA: 15 mg/m ³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m ³ respirable
	except graphite fibers	TWA: 5 mg/m ³ respirable	dust
		fraction synthetic	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m ³ total	
		dust synthetic	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction synthetic	
		TWA: 15 mppcf natural	
Copper	TWA: 0.2 mg/m ³ fume	TWA: 0.1 mg/m ³ fume	IDLH: 100 mg/m ³ dust, fume
7440-50-8		TWA: 1 mg/m ³ dust and mist	and mist
		(vacated) TWA: 0.1 mg/m ³ Cu	TWA: 1 mg/m ³ dust and mist
		dust, fume, mist	TWA: 0.1 mg/m ³ fume
Aluminum	TWA: 1 mg/m ³ respirable	TWA: 15 mg/m ³ total dust	TWA: 10 mg/m ³ total dust
7429-90-5	particulate matter	TWA: 5 mg/m ³ respirable	TWA: 5 mg/m ³ respirable dust
		fraction	
		(vacated) TWA: 15 mg/m ³ total	
		dust	
		(vacated) TWA: 5 mg/m ³	

				respii	able fraction		
Phosphate(1-), hexafluc lithium 21324-40-3	oro-, TWA: 2.5 mg		g/m³ F	TWA: (vacated)	2.5 mg/m ³ F TWA: 2.5 mg/m ³		IDLH: 250 mg/m ³ F
Nickel 7440-02-0		TWA: 1.5 m	ng/m³	/m ³ TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³			IDLH: 10 mg/m ³ TWA: 0.015 mg/m ³
Ci 77266 1333-86-4		TWA: 3 mg/m ³ inhalable particulate matter		TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³		TWA in aror	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ : 0.1 mg/m ³ Carbon black presence of Polycyclic natic hydrocarbons PAH
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V	Quebec
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	T۱	NA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/	m³	TWA: 0.02 mg/m ³
Graphite 7782-42-5	-	TWA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m	13	TWA: 2 mg/m ³
Copper 7440-50-8	T -	WA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 1 TWA: 0.	l mg/m³ .2 mg/m³	TWA: 0.2 mg/r TWA: 1 mg/m	n ³ I ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³
Aluminum 7429-90-5	Т	⁻ WA: 10 mg/m ³	TWA: 1.	.0 mg/m ³	TWA: 1 mg/m	1 ³	TWA: 10 mg/m ³
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Т	WA: 2.5 mg/m ³	TWA: 2.	.5 mg/m³	TWA: 2.5 mg/r	n ³	TWA: 2.5 mg/m ³
Nickel 7440-02-0	Т	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m³	TWA: 1 mg/m	13	TWA: 1.5 mg/m ³
Ci 77266 1333-86-4	Т	WA: 3.5 mg/m ³	TWA: 3	3 mg/m ³	TWA: 3 mg/m	13	TWA: 3 mg/m ³
1,3-Propane sultone 1120-71-4			TV	VA:	TWA:		TWA:

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

- **Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
- **General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	
Appearance	Black	
Odor	Odorless	
Color	No information available	
Odor Threshold	No information available	
Property	Values	Remarks Method
рН	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/w	/ater1	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Other Information		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening Point	No information available	
Molecular Weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk Density	No information available	
Particle Size	No information available	
Particle Size Distribution	No information available	

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:
Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.
Symptoms related to the physical, c	hemical and toxicological characteristics
Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.
Numerical measures of toxicity	
Acute toxicity	
The following values are calculated	based on chapter 3.1 of the GHS document
ATEmix (oral) ATEmix (dermal)	4,568.70 mg/kg 2,940.00 mg/kg
Unknown acute toxicity 48 % of the mixture consists of ing 51 % of the mixture consists of ing	51 % of the mixture consists of ingredient(s) of unknown toxicity redient(s) of unknown acute oral toxicity redient(s) of unknown acute inhalation toxicity (gas) redient(s) of unknown acute inhalation toxicity (vapor) redient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat)4 h
Graphite	-	-	> 2000 mg/m ³ (Rat) 4 h

		-	
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat)8 h
Copper	-	-	> 5.11 mg/L (Rat)4 h
Aluminum	-	-	> 0.888 mg/L (Rat)4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat)1 h
Ci 77266	> 15400 mg/kg (Rat)	-	> 4.6 mg/m³ (Rat)4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat)4 h
1,3-Propane sultone	= 157 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
Respiratory or skin sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	No information available.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	A3	Group 2B	Reasonably Anticipated	Х
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	Х
Ci 77266 1333-86-4	A3	Group 2B	-	Х
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	X

Legend

 ACGIH (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen IARC (International Agency for Research on Cancer) Group 2A - Probably Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans NTP (National Toxicology Program) Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present 		
Reproductive toxicity	No information available.	
STOT - single exposure	No information available.	
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.		
Aspiration hazard	No information available.	

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Copper	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Nickel	96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio) 96h LC50: > 100 mg/L (Brachydanio rerio)	No data available	48h EC50: = 1 mg/L (Daphnia magna) 48h EC50: > 100 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.



Contaminated packaging Do not reuse empty containers.

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California Waste Codes

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	Toxic
Aluminum 7429-90-5	Ignitable powder
Nickel 7440-02-0	Toxic powder Ignitable powder

14. TRANSPORT INFORMATION

Note: DOT	The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"
Proper Shipping Name Hazard Class Emergency Response Guide Number	NON-REGULATED N/A 147
TDG	
MEX	Not applicable
ICAO	Not applicable
IATA UN-No. Proper Shipping Name Hazard Class ERG Code Description	UN3480 LITHIUM ION BATTERIES 9 12FZ UN3480, LITHIUM ION BATTERIES, 9
IMDG/IMO Proper Shipping Name Hazard Class EmS-No. Marine Pollutant	Not applicable NON-REGULATED PER SP 188 N/A F-A, S-I This product contains a chemical which is listed as a marine pollutant according to

<u>ADN</u>	Not applicable
ADR	Not applicable
RID	Not applicable
	IMDG/IMO

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories	
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	50	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Aluminum - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.



CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper		Х	Х	
7440-50-8				
Nickel		Х	Х	
7440-02-0				

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable
	size)
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	Х		Х	Х	Х
Graphite 7782-42-5	Х	X	Х		
Ethylene carbonate 96-49-1		X	Х		
Copper 7440-50-8	Х	Х	Х	Х	Х
Aluminum 7429-90-5	Х	Х	Х	Х	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Ci 77266 1333-86-4	Х	X	Х		Х

1,3-Propane sultone	Х	Х	Х	Х	Х
1120-71-4					

16. OTHER INFORMATION				
<u>NFPA</u>	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical
HMIS	Health hazards 0	Flammability 0	Physical hazards 0	Personal Protection X
Prepared By	Product S 23 British Latham, I 1-800-57	Stewardship American Blvd. NY 12110 2-6501		
Issuing Date	01-Feb-2023			
Revision Date	31-Jan-2	023		
Revision Note	No inform	nation available		

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 01-Feb-2023

Revision Date 31-Jan-2023

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier			
Product Name	Rechargeable Li-ion Battery L22C4PF1 By Celxpert		
Other means of identification			
Product Code(s)	1734436		
Recommended use of the chemical	and restrictions on use		
Recommended Use	Lithium Ion Battery		
Restrictions on use	No information available		
Details of the supplier of the safety	data sheet		
Supplier Identification	Lenovo LNB laptops		
Address	Songtao Road 696 shanghai shanghai 201203 CN		
Telephone	Phone:18116118603		
E-mail	yuanbb1@lenovo.com		
Emergency telephone number			
Company Emergency Phone Number	18116118603		

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1



Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance Black

Physical state Solid

Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Harmful if swallowed Causes severe skin burns and eye damage May cause an allergic skin reaction Suspected of causing cancer Causes damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

Obtain special instructions before use Do not handle until all safety precautions have been read and understood Wear protective gloves/protective clothing/eye protection/face protection Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Contaminated work clothing must not be allowed out of the workplace Do not breathe dust/fume/gas/mist/vapors/spray **Precautionary Statements - Response** Immediately call a POISON CENTER or doctor

Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell Rinse mouth Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up



Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

31 % of the mixture consists of ingredient(s) of unknown toxicity 1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

31 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt(II) oxide	1307-96-6	50	-	-
Ethylene carbonate	96-49-1	20	-	-
Copper	7440-50-8	10	-	-
Aluminum foil	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention. First aid is upon rupture of sealed battery. In case of rupture:
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider	Never give anything by mouth to an unconscious person. Get immediate medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).
Most important symptoms and effect	ets, both acute and delayed
Symptoms	Burning sensation. Itching. Rashes. Hives.
Indication of any immediate medica	attention and special treatment needed
Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.
	5. FIRE-FIGHTING MEASURES
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.

- **Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.
- **Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.
- Hazardous Combustion Products Carbon oxides.

Explosion Data Sensitivity to Mechanical Impact Sensitivity to Static Discharge	None. None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other Information	Refer to protective measures listed in Sections 7 and 8.
Methods and material for containme	nt and cleaning up
Methods for containment	Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name		ACGIH T	LV	0	SHA PEL		NIOSH IDLH
Cobalt(II) oxide		TWA: 0.02 mg/m ³ (Co inhalable		-		
1307-96-6		particulate n	natter				
Copper		TWA: 0.2 mg/n	n³ fume	TWA: 0.	1 mg/m³ fume	IDLH	l: 100 mg/m ³ dust, fume
7440-50-8				TWA: 1 mg	/m ³ dust and mist		and mist
				(vacated) T	WA: 0.1 mg/m ³ Cu	TWA:	1 mg/m ³ dust and mist
				dust,	, fume, mist	T۷	VA: 0.1 mg/m ³ fume
Aluminum foil		TWA: 1 mg/m ³ r	espirable	TWA: 15 r	ng/m³ total dust	TW	A: 10 mg/m ³ total dust
7429-90-5		particulate n	natter	TWA: 5 m	g/m3 respirable	TWA:	5 mg/m ³ respirable dust
				1	fraction		
				(vacated) TV	VA: 15 mg/m ³ total		
					dust		
				(vacated)) TWA: 5 mg/m³		
				respir	able fraction		
Phosphate(1-), hexafluc	oro-,	TWA: 2.5 mg	g/m³ F	TWA:	2.5 mg/m ³ F		IDLH: 250 mg/m ³ F
lithium				(vacated)	TWA: 2.5 mg/m ³		
21324-40-3							
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V	Quebec
Cobalt(II) oxide	T١	VA: 0.02 mg/m³	TWA: 0.0)2 mg/m³	TWA: 0.02 mg/	m³	TWA: 0.02 mg/m ³
1307-96-6							
Copper	Т	WA: 0.2 mg/m ³	TWA: 1	mg/m³	TWA: 0.2 mg/n	n ³	TWA: 0.2 mg/m ³
7440-50-8		ΓWA: 1 mg/m³	TWA: 0.	2 mg/m ³	TWA: 1 mg/m	3	TWA: 1 mg/m ³
Aluminum foil	Т	WA: 10 mg/m ³	TWA: 1.	0 mg/m³	TWA: 1 mg/m	3	TWA: 10 mg/m ³
7429-90-5							
Phosphate(1-),	T	WA: 2.5 mg/m ³	TWA: 2.	5 mg/m ³	TWA: 2.5 mg/n	n ³	TWA: 2.5 mg/m ³
hexafluoro-, lithium							
21324-40-3							

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962



(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
Individual protection measures, suc	h as personal protective equipment
Eye/face protection	Face protection shield.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

in en saele physical at		
Physical state	Solid	
Appearance	Black	
Odor	Odorless	
Color	No information available	
Odor Threshold	No information available	
Property_	Values	Remarks Method
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/w	ater1	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other Information

Explosive properties	No information available
Oxidizing properties	No information available
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:
Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

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Symptoms related to the physical, chemical and toxicological characterist	ics
---	-----

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS documentATEmix (oral)892.90 mg/kgATEmix (dermal)4,140.00 mg/kg

Unknown acute toxicity 31 % of the mixture consists of ingredient(s) of unknown toxicity

1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

31 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information			
Component Information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cobalt(II) oxide	= 159 mg/kg(Rat)	-	= 0.06 mg/L (Rat)4 h = 0.07 mg/L (Rat)4 h
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m ³ (Rat) 8 h
Copper	-	-	> 5.11 mg/L (Rat)4 h
Aluminum foil	-	-	> 0.888 mg/L (Rat)4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
Respiratory or skin sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	No information available.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt(II) oxide 1307-96-6	A3	Group 2B	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
 A3 - Animal Carcinogen
 IARC (International Agency for Research on Cancer)
 Group 2B - Possibly Carcinogenic to Humans
 NTP (National Toxicology Program)
 Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethylene carbonate	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Oncorhynchus mykiss)		
Copper	96h EC50: 0.031 - 0.054	96h LC50: 0.0068 -	No data available	48h EC50: = 0.03 mg/L
	mg/L	0.0156 mg/L (Pimephales		(Daphnia magna)
	(Pseudokirchneriella	promelas)		
	subcapitata)	96h LC50: < 0.3 mg/L		
	72h EC50: 0.0426 -	(Pimephales promelas)		
	0.0535 mg/L	96h LC50: = 0.052 mg/L		
	(Pseudokirchneriella	(Oncorhynchus mykiss)		
	subcapitata)	96h LC50: = 0.112 mg/L		
		(Poecilia reticulata)		
		96h LC50: = 0.2 mg/L		
		(Pimephales promelas)		
		96h LC50: = 0.3 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 1.25 mg/L		
		(Lepomis macrochirus)		

Persistence and Degradability No information available.

Bioaccumulation

Component Information

Chemical name		Partition coefficient		
Ethylene carl	oonate	0.11		
Mobility	No information available.			
Other adverse effects No information available.				
	13. DISPOSAL CO	ONSIDERATIONS		
Waste treatment methods				
Waste from residues/unused products	Dispose of in accordance environmental legislation.	with local regulations. Dispose of waste in accordance with		

Contaminated packaging Do not reuse empty containers.



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California Waste Codes

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Cobalt(II) oxide 1307-96-6	Toxic
Aluminum foil 7429-90-5	Ignitable powder

14. TRANSPORT INFORMATION

Note:	The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"
DOT Proper Shipping Name Hazard Class Emergency Response Guide Number	NOT REGULATED NON-REGULATED N/A 147
TDG	
MEX	Not applicable
ICAO	Not applicable
IATA UN-No. Proper Shipping Name Hazard Class ERG Code Description	UN3480 LITHIUM ION BATTERIES 9 12FZ UN3480, LITHIUM ION BATTERIES, 9
IMDG/IMO Proper Shipping Name Hazard Class EmS-No. Marine Pollutant	Not applicable NON-REGULATED PER SP 188 N/A F-A, S-I This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
RID	Not applicable

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

<u>SARA 313</u>

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Cobalt(II) oxide - 1307-96-6	1307-96-6	50	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Aluminum foil - 7429-90-5	7429-90-5	10	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances

Copper	Х	Х	
7440-50-8			

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Aluminum foil 7429-90-5			

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Cobalt(II) oxide - 1307-96-6	carcinogen, 7/1/1992

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Cobalt(II) oxide 1307-96-6	Х		Х	Х	Х
Ethylene carbonate 96-49-1		X	Х		
Copper 7440-50-8	Х	X	Х	Х	Х
Aluminum foil 7429-90-5	Х	Х	Х	Х	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				

16. OTHER INFORMATION

NFPA	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0	Personal Protection X
Prepared By	Product Stev 23 British Ar Latham, NY 1-800-572-6	wardship nerican Blvd. 12110 501		
Issuing Date	01-Feb-2023	3		
Revision Date	31-Jan-2023	3		
Revision Note	No informati	on available		
Disclaimer				



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End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 01-Feb-2023

Revision Date 31-Jan-2023

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier	
Product Name	Rechargeable Li-ion Battery L22M4PF1 by Simplo
Other means of identification	
Product Code(s)	1734442
Recommended use of the chemical	and restrictions on use
Recommended Use	Lithium Ion Battery
Restrictions on use	No information available
Details of the supplier of the safety	data sheet
Supplier Identification	Lenovo LNB laptops
Address	Songtao Road 696 shanghai shanghai 201203 CN
Telephone	Phone:18116118603
E-mail	yuanbb1@lenovo.com
Emergency telephone number	
Company Emergency Phone Number	18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1B



Specific target organ toxicity (repeated exposure) Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance Black

Physical state Solid

Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction May cause cancer Causes damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

Obtain special instructions before use Do not handle until all safety precautions have been read and understood Wear protective gloves/protective clothing/eye protection/face protection Wash face, hands and any exposed skin thoroughly after handling Contaminated work clothing must not be allowed out of the workplace Do not breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention Specific treatment (see supplemental first aid instructions on this label) Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of water and soap Take off contaminated clothing and wash it before reuse If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

30.87 % of the mixture consists of ingredient(s) of unknown toxicity 27.75 % of the mixture consists of ingredient(s) of unknown acute oral toxicity



30.87 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

<u>Mixture</u>

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO2)	12190-79-3	43.72	-	-
Graphite	7782-42-5	23.27	-	-
Copper	7440-50-8	10.19	-	-
Aluminum	7429-90-5	4.95	-	-
Propylene carbonate	108-32-7	2.24	-	-
Ethylene carbonate	96-49-1	2.24	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	1.28	-	-
Nickel	7440-02-0	0.38	-	-
1,3-Propane sultone	1120-71-4	0.32	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	how this safety data sheet to the doctor in attendance. IF exposed or concerned: Get			
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.			
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.			
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.			
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.			
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).			
Most important symptoms and effec	ts, both acute and delayed			
Symptoms	Itching. Rashes. Hives. Burning sensation.			
Indication of any immediate medical attention and special treatment needed				

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.			
	5. FIRE-FIGHTING MEASURES			
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.			
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.			
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.			
Hazardous Combustion Products	Carbon oxides.			
Explosion Data Sensitivity to Mechanical Impact Sensitivity to Static Discharge	t None. None.			
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.			

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.					
Other Information	Refer to protective measures listed in Sections 7 and 8.					
Methods and material for containm	ent and cleaning up					
Methods for containment	Prevent further leakage or spillage if safe to do so.					
Methods for cleaning up	Pick up and transfer to properly labeled containers.					

7. HANDLING AND STORAGE

Precautions for safe handling	
Advice on safe handling	In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
Conditions for safe storage, incl	uding any incompatibilities
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name		ACGIH T	LV	0	SHA PEL		NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2)		TWA: 0.02 i	mg/m³		-		
12190-79-3							
Graphite		TWA: 2 mg/m ³ respirable		TWA: 15 I	mg/m ³ total dust		IDLH: 1250 mg/m ³
//82-42-5		particulate matte	er all forms				A: 2.5 mg/m ³ respirable
		except graphi	te libers	I VVA: 5 II	ig/m ³ respirable		dust
				(vooted)	TMA: 2 E ma/m ³		
				(vacaleu)	le dust natural		
				(vacated) TV	$NA \cdot 10 \text{ ma/m}^3 \text{ total}$		
				dus	t synthetic		
				(vacated) TWA: 5 mg/m ³		
				respirable	fraction synthetic		
				TWA: 1	5 mppcf natural		
Copper		TWA: 0.2 mg/r	n³ fume	TWA: 0.	1 mg/m ³ fume	IDLF	l: 100 mg/m ³ dust, fume
7440-50-8		C C		TWA: 1 mg	/m ³ dust and mist		and mist
				(vacated) T	WA: 0.1 mg/m ³ Cu	TWA:	: 1 mg/m ³ dust and mist
				dust	, fume, mist	T\	NA: 0.1 mg/m ³ fume
Aluminum		TWA: 1 mg/m ³	respirable	TWA: 15 i	mg/m ³ total dust	TW	A: 10 mg/m ³ total dust
7429-90-5		particulate r	natter	TWA: 5 m	ng/m ³ respirable	TWA:	5 mg/m ³ respirable dust
				fraction			
				(vacated) IWA: 15 mg/m ³ total			
				() is a set of			
				(vacaled) TWA. 5 Mg/M ^o		
Dheenhote(1) hevefluere		TWA: 2.5 mg/m ³ F			2.5 mg/m3 F		IDI H: 250 mg/m3 E
lithium	,	TWA. 2.3 III	g/111° 1	(vacated)	$T_{\rm M}\Delta$ 2.5 mg/m ³		IDEN: 250 mg/m ⁻ 1
21324-40-3				(vacated)	1 WA. 2.5 mg/m		
Nickel		TWA: 1.5 n	na/m³	тw	A: 1 mg/m ³		IDI H: 10 mg/m ³
7440-02-0				(vacated) TWA: 1 mg/m ³		TWA: 0.015 mg/m ³
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V	Quebec
Lithium Cobalt Oxide	ΤV	VA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/	m³	TWA: 0.02 mg/m ³
(CoLiO2)		C C		Ū.			
12190-79-3							
Graphite	Т	⁻ WA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m	1 ³	TWA: 2 mg/m ³
7782-42-5							
Copper		WA: 0.2 mg/m ³	TWA: 1	l mg/m ³	TWA: 0.2 mg/r	n ³	TWA: 0.2 mg/m ³
7440-50-8		WA: 1 mg/m ³	TWA: 0.	.2 mg/m ³	TWA: 1 mg/m	1 ³	TWA: 1 mg/m ³
Aluminum	I	WA: 10 mg/m ³	I WA: 1.	.0 mg/m ³	IWA: 1 mg/m	1 ³	I WA: 10 mg/m ³
7429-90-5			T\A/A - 0	F in a 1/m 2			
Phosphate(1-),	1	WA: 2.5 mg/m ³	1 VVA: 2.	.5 mg/m ³	T WA: 2.5 mg/r	ns	1 WA: 2.5 mg/m ³
Nickel	T\	$N\Delta \cdot 1.5 \text{ mg/m}^3$	Τ\Λ/Δ·Ο	05 mg/m^3		3	$TM/\Delta \cdot 1.5 mg/m^3$
7440-02-0	1	w/t. 1.0 mg/m	1	oo mg/m	1 vv. 1 mg/m		
1.3-Propane sultone			ти	VA:	TWA		TWA:
1120-71-4							

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962



(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
Individual protection measures, suc	h as personal protective equipment
Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Oxidizing properties

Physical state	Solid				
Appearance	Black				
dor Odorless					
Color	No information available				
Odor Threshold	No information available				
Property_	Values	Remarks Method			
pH	No data available	None known			
Melting / freezing point	No data available	None known			
Boiling point / boiling range	No data available	None known			
Flash Point	No data available	None known			
Evaporation Rate	No data available	None known			
Flammability (solid, gas)	No data available	None known			
Flammability Limit in Air		None known			
Upper flammability limit	No data available				
Lower flammability limit	No data available				
Vapor pressure	No data available	None known			
Vapor density	No data available	None known			
Relative density	No data available	None known			
Water Solubility	Insoluble in water				
Solubility(ies)	No data available	None known			
Partition coefficient: n-octanol/w	vater1				
Autoignition temperature	No data available	None known			
Decomposition temperature	No data available	None known			
Kinematic viscosity	No data available	None known			
Dynamic viscosity	No data available	None known			
Other Information					
Explosive properties	No information available				

No information available

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	None known based on information supplied.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:
Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). Irritating to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. May cause sensitization by skin contact. (based on components). Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms related to the physical, c	hemical and toxicological characteristics
Symptoms	Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.
Numerical measures of toxicity	
Acute toxicity	
The following values are calculated ATEmix (oral) ATEmix (dermal)	based on chapter 3.1 of the GHS document 23,817.00 mg/kg 16,202.30 mg/kg

Unknown acute toxicity

30.87 % of the mixture consists of ingredient(s) of unknown toxicity

27.75 % of the mixture consists of ingredient(s) of unknown acute oral toxicity 30.87 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

30.87 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information			
Component Information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat)4 h
Graphite	-	-	> 2000 mg/m³ (Rat)4 h
Copper	-	-	> 5.11 mg/L (Rat)4 h
Aluminum	-	-	> 0.888 mg/L (Rat)4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat)8 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat)1 h
1,3-Propane sultone	= 157 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Irritating to skin.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye irritation.
Respiratory or skin sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	No information available.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B	Reasonably Anticipated	Х
(CoLiO2)				
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	Х
7440-02-0		-		
1,3-Propane sultone	A3	Group 2A	Reasonably Anticipated	Х
1120-71-4				

Legend

ACGIH (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen IARC (International Agency for Research on Cancer) Group 2A - Probably Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans NTP (National Toxicology Program) Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present **Reproductive toxicity** No information available.

STOT - single exposure

No information available.



STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Copper	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	(Danio rerio) 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Nickel	96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio) 96h LC50: > 100 mg/L (Brachydanio rerio)	No data available	48h EC50: = 1 mg/L (Daphnia magna) 48h EC50: > 100 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

Mobility

No information available.

Other adverse effects

No information available.



13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

California Waste Codes

This product contains one or more substances that are listed with the State of California as a hazardous waste.

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Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO2)	Toxic
12190-79-3	
Aluminum	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	Ignitable powder

14. TRANSPORT INFORMATION

Note:	The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"
DOT Proper Shipping Name Hazard Class Emergency Response Guide Number	NOT REGULATED NON-REGULATED N/A 147
TDG	
MEX	Not applicable
ICAO	Not applicable
IATA UN-No. Proper Shipping Name Hazard Class ERG Code	UN3480 LITHIUM ION BATTERIES 9 12FZ

Description	UN3480, LITHIUM ION BATTERIES, 9
IMDG/IMO Proper Shipping Name Hazard Class EmS-No. Marine Pollutant	Not applicable NON-REGULATED PER SP 188 N/A F-A, S-I This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
RID	Not applicable
ADR	Not applicable
<u>ADN</u>	Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	43.72	0.1
Copper - 7440-50-8	7440-50-8	10.19	1.0
Aluminum - 7429-90-5	7429-90-5	4.95	1.0
Nickel - 7440-02-0	7440-02-0	0.38	0.1



1734442 - Rechargeable Li-ion Battery L22M4PF1 by Simplo

1,3-Propane sultone - 1120-71-4	1120-71-4	0.32	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8		Х	Х	
Nickel 7440-02-0		Х	Х	

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lithium Cobalt Oxide	Х		Х	Х	Х
(CoLiO2)					
12190-79-3					
Graphite	Х	Х	Х		
7782-42-5					
Copper	Х	Х	Х	Х	X
7440-50-8					
Aluminum	Х	Х	Х	Х	
7429-90-5					
Ethylene carbonate		Х	Х		
96-49-1					
Phosphate(1-),	Х				
hexafluoro-, lithium					



21324-40-3					
Nickel 7440-02-0	Х	Х	Х	Х	Х
1,3-Propane sultone 1120-71-4	Х	Х	Х	Х	Х

16. OTHER INFORMATION						
NFPA	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties - Personal Protection X		
Prepared By	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501					
Issuing Date	01-Feb-20	01-Feb-2023				
Revision Date	31-Jan-2023					
Revision Note	No inform	ation available				

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet